جمهورية مصر العربية

وزارة التربية والتعليم

مركز تطوير المناهج

والمواد التعليمية

نواتج التعلم لمادة الرياضيات

Learning outcomes for mathematics

(الصف الثالث الإعدادى)

(Third grade prep)

٢٠١٧ /٢٠١٨ م

.Field: numbers and operations on them

.The first criterion: Realize numbers properties and methods of representation and the relationships between them

Evidence and evidence	Evaluation methods	Educational activities	Teaching and learning strategies	Current curriculum content	Learning outcomes (indicators / (practices
*Review teacher preparation book *Check tracts pupils *Oral questions *Note is inhalers *Exercises to be solved, to be implemented in the *Classroom activities *Exercises to be solved, to be implemented *Homework and activities *Completion of the student file (examples of exercises and activities that the student solve with his colleague after (he put them right) * The various activities carried out by the student and the associated real numbers *The results of the monthly tests	*oral questions *editorial questions *note cards *the end of the unit test *Follow-up performance. the pupils _	.1- solve a set of exercises on real numbers • 2) pupils practiced a range of activities in • groups to know the numbers associated with .the relative concepts 3) solves every pupil set of exercises • individually for training on the relative .numbers 4) The division of students in groups so that • each group of two students made up, and asked each student to solve a number of exercises on the relative numbers, provided that the colleague put them right training to learn and evaluate peers, then ask the pupils exchange roles with each other and are under the .supervision of the teacher	1- cooperative learning . - *lecture .*discussion .*Brainstorming *Problem .Solving 6- inductive .method .Way Alastenbatih	Unit:Integers powersreal numbers (First semester)	1- the meaning of the real positive power and negative real numbers to understand . 2- recognize the the real positive power and negative real .numbers laws

.The second criterion: being calculations skill and understands the relationships between them

Evidence and evidence	Evaluation methods	Educational activities	Teaching and learning strategies	Current curriculum content	Learning outcomes (indicators / (practices
*Review teacher preparation book *Check tracts pupils *Oral questions *Note is inhalers *Exercises to be solved, to be implemented in the *Classroom activities *Exercises to be solved, to be implemented *Homework and activities *Completion of the student file (examples of exercises and activities that the student solve with his colleague after (he put them right) * The various activities carried out by the student and the associated real numbers *The results of the monthly tests	*oral questions *editorial questions *note cards *the end of the unit test *Follow-up performance. the pupils –	1- solve a set of exercises • • .on real numbers 2) pupils practiced a • range of activities in groups to know the numbers associated with the relative .concepts 3) solves every pupil set of • exercises individually for training on the relative .numbers 4) The division of students in • groups so that each group of two students made up, and asked each student to solve a number of exercises on the relative numbers, provided that the colleague put them right training to learn and evaluate peers, then ask the pupils exchange roles with each other and are under the .supervision of the teacher	1- cooperative learning . - *lecture .*discussion .*Brainstorming *Problem .Solving .6- inductive method .Way Alastenbatih •	Unit:Integers powersreal numbers (First semester)	3- Being calculations (+, -, ×, ÷) using the correct power is negative laws and .negative real numbers

.The third criterion: Calculate the skill and reach a reasonable estimate

Evidence and evidence	Evaluation methods	Educational activities	Teaching and learning strategies	Current curriculum content	Learning outcomes (indicators / (practices
*Review teacher preparation book *Check tracts pupils *Oral questions *Note is inhalers *Exercises to be solved, to be implemented in the *Classroom activities *Exercises to be solved, to be implemented *Homework and activities *Completion of the student file (examples of exercises and activities that the student solve with his colleague after (he put them right) * The various activities carried out by the student and the associated real numbers *The results of the monthly tests	*oral questions *editorial questions *note cards *the end of the unit test *Follow-up performance. the pupils –	1- solve a set of exercises on • • .real numbers 2) pupils practiced a range • of activities in groups to know the numbers associated with .the relative concepts 3) solves every pupil set of • exercises individually for training on the relative .numbers 4) The division of students in • groups so that each group of two students made up, and asked each student to solve a number of exercises on the relative numbers, provided that the colleague put them right training to learn and evaluate peers, then ask the pupils exchange roles with each other and are under the supervision of .the teacher	1- cooperative learning . - *lecture *discussion . .*Brainstorming *Problem .Solving 6- inductive .method .Way Alastenbatih •	Unit:Integers powersreal numbers (First semester)	1- being calculations (+, -, ×, ÷) on the positive powers, using suitable methods accurately . 2- solve mathematical problems of life includes all of the integer power is negative and negative . 3- some of the computer programs used in solving mathematical problems include both the integer power is .negative and negative

.The second area: algebra, relationships and functions

.The first criterion: the meaning of each of the variables, borders and Algebraic understand

Evidence and evidence	Evaluation methods	Educational activities	Teaching and learning strategies	Current curriculum content	Learning outcomes ((indicators / practices
*Review teacher preparation book *Check tracts pupils *Oral questions *Note is inhalers *Exercises to be solved, to be implemented in the *Classroom activities *Exercises to be solved, to be implemented *Homework and activities *Completion of the student file (examples of exercises and activities that the student solve with his colleague after (he put them right) * The various activities carried out by the student and the associated real numbers *The results of the monthly tests	*oral questions *editorial questions *note cards *the end of the unit test *Follow-up performance. the pupils –	.1- solve a set of exercises on a pro-rata • • 2) pupils practiced a range of activities • in groups to know the numbers associated .with the relative concepts 3) solves every pupil set of exercises • individually for training on the relative .numbers 4) The division of students in groups so that • each group of two students made up, and asked each student to solve a number of exercises on the relative numbers, provided that the colleague put them right training to learn and evaluate peers, then ask the pupils exchange roles with each other and are under .the supervision of the teacher	1- cooperative learning . - *lecture .*discussion .*Brainstorming *Problem .Solving 6- inductive .method .Way Alastenbatih •	Unit: .proportionality (First semester)	1) The concept of both the pro-rata sequential and proportionality .recognize 2) Ratio laws and proportionality serial and proportionality .recognize

Learning outcomes ((indicators / practices	Current curriculum content	Teaching and learning strategies	Educational activities	Evaluation methods	Evidence and evidence
1) recognize the concepts of direct and inverse varation change their strategy between two variables and .Joasma 2) It distinguishes between the direct and inverse varation strategy .between two variables	Unit: direct and .inverse varation (Second Semester)	1- cooperative learning . - *lecture .*discussion .*Brainstorming *Problem .Solving 6- inductive .method .Way Alastenbatih •	1- solve a set of exercises on the direct and inverse varation • p2) pupils practiced a range of activities • in groups to know the numbers associated .with the relative concepts 3) solves every pupil set of exercises • individually for training on the relative .numbers 4) The division of students in groups so that each group of two students made up, and asked each student to solve a number of exercises on the relative numbers, provided that the colleague put them right training to learn and evaluate peers, then ask the pupils exchange roles with each other and are under .the supervision of the teacher •	*oral questions *editorial questions *note cards *the end of the unit test *Follow-up performance. the pupils –	*Review teacher preparation book *Check tracts pupils *Oral questions *Note is inhalers *Exercises to be solved, to be implemented in the *Classroom activities *Exercises to be solved, to be implemented *Homework and activities *Completion of the student file (examples of exercises and activities that the student solve with his colleague after (he put them right) * The various activities carried out by the student and the associated real numbers *The results of the monthly tests

Evidence and evidence	Evaluation methods	Educational activities	Teaching and learning strategies	Current curriculum content	Learning outcomes ((indicators / practices
–	–	2) pupils practiced a range of activities in groups to know the numbers associated with the relative concepts. 3) solves every pupil set of exercises • individually for training on the relative numbers. 4) The division of students in groups so that each group of two students made up, and asked each student to solve a number of exercises on the relative numbers, provided that the colleague put them right training to learn and evaluate peers, then ask the pupils exchange roles with each other and are under the supervision of the teacher	–	–	3) It gives examples of areas of application of proportionality serial and proportionality, and the exponential change and change their strategy between two variables.

Evidence and evidence	Evaluation methods	Educational activities	Teaching and learning strategies	Current curriculum content	Learning outcomes ((indicators / practices
*Review teacher preparation book *Check tracts pupils *Oral questions *Note is inhalers *Exercises to be solved, to be implemented in the *Classroom activities *Exercises to be solved, to be implemented *Homework and activities *Completion of the student file (examples of exercises and activities that the student solve with his colleague after (he put them right) * The various activities carried out by the student and the associated real numbers *The results of the monthly tests	*oral questions *editorial questions *note cards *the end of the unit test *Follow-up performance. the pupils –	1- solve a set of exercises on the • • fractional functions. 2) pupils practiced a range of activities • in groups to know the numbers associated with the relative concepts. 3) solves every pupil set of exercises • individually for training on the relative numbers. 4) The division of students in groups so that • each group of two students made up, and asked each student to solve a number of exercises on the relative numbers, provided that the colleague put them right training to learn and evaluate peers, then ask the pupils exchange roles with each other and are under the supervision of the teacher.	1- cooperative learning . - *lecture .*discussion .*Brainstorming *Problem .Solving 6- inductive .method .Way Alastenbatih •	Unit: fractional .functions (Second Semester)	1) There zeros polynomial .functions set 2) defines the domian of fractional algebraic functions, and appointed the joint area for some fractional algebraic functions, and put it in its simplest .form 3) It concludes conditions equal to two functions Ksreeten .Ghebretin

.The second criterion: being calculations on algebraic quantities

Evidence and evidence	Evaluation methods	Educational activities	Teaching and learning strategies	Current curriculum content	(Learning outcomes (indicators / practices
–	–	–	–	–	1- is used to facilitate the properties of a pro-rata sequential and proportionality .make some calculations 2- conducted calculations on the exponential change and reversed .between the two variables 3- being calculations (+, -, ×, ÷) on .fractional algebraic functions 4- being calculations (+, -, ×, ÷) on a pro-rata sequential and proportionality, and the exponential change and reverse between two variables accurately using .appropriate methods 5- solves the problems of life sports include both pro-rata sequential and proportionality, and the exponential change and reversed between the two .variables 6- Some computer programs used in solving mathematical problems include both pro-rata sequential and proportionality, and the exponential change and change their strategy between two variables, and fractional algebraic .functions and operations on them

.The third criterion: equations and inequalities recognize the existence of solutions splint and graphic them

Evidence and evidence	Evaluation methods	Educational activities	Teaching and learning strategies	Current curriculum content	(Learning outcomes (indicators / practices
*Review teacher preparation book *Check tracts pupils *Oral questions *Note is inhalers *Exercises to be solved, to be implemented in the *Classroom activities *Exercises to be solved, to be implemented *Homework and activities *Completion of the student file (examples of exercises and activities that the student solve with his colleague after (he put them right) * The various activities carried out by the student and the associated real numbers *The results of the monthly tests	*oral questions *editorial questions *note cards *the end of the unit test *Follow-up performance. the pupils –	1-solve a set of exercises to solve • • .equations 2) pupils practiced a range of activities • in groups to know the numbers associated .with the relative concepts 3) solves every pupil set of exercises • individually for training on the relative .numbers 4) The division of students in groups so that • each group of two students made up, and asked each student to solve a number of exercises on the relative numbers, provided that the colleague put them right training to learn and evaluate peers, then ask the pupils exchange roles with each other and .are under the supervision of the teacher	1- cooperative learning . - *lecture .*discussion *Brainstormi .ng *Problem .Solving 6- inductive .method .Way Alastenbatih •	Unit: Solving .equations Second) (Semester	1- There is a straight line equation Bmalomah tilt and along the axis of .the lump of antibiotics 2- solves the equations of the first degree in two variables algebraically and graphically for the group numbers truth (?) and verify the .validity of the results 3- solve a quadratic equation in one variable graphically, and using the .law 4- solves the equations in two variables, one first class and one .second-degree algebraically 5- Model the attitudes and problems of life in the form of mathematical equations, and interpret data in the light of the original .problem

.Fourth criterion: understand and use patterns, relationships and functions

Evidence and evidence	Evaluation methods	Educational activities	Teaching and learning strategies	Current curriculum content	(Learning outcomes (indicators / practices
*Review teacher preparation book *Check tracts pupils *Oral questions *Note is inhalers *Exercises to be solved, to be implemented in the *Classroom activities *Exercises to be solved, to be implemented *Homework and activities *Completion of the student file (examples of exercises and activities that the student solve with his colleague after (he put them right) * The various activities carried out by the student and the associated real numbers *The results of the monthly tests	*oral questions *editorial questions *note cards *the end of the unit test *Follow-up performance. the pupils –	• 1-solve a set of exercises on the relationship and function. • 2) pupils practiced a range of activities in groups to know the numbers associated with the relative concepts. • 3) solves every pupil set of exercises individually for training on the relative numbers. • 4) The division of students in groups so that each group of two students made up, and asked each student to solve a number of exercises on the relative numbers, provided that the colleague put them right training to learn and evaluate peers, then ask the pupils exchange roles with each other and are under the supervision of the teacher.	1- cooperative learning . - *lecture .*discussion *Brainstorm ing. *Problem Solving. 6- inductive method. • Way Alastenbatih.	.Unit: the relationship and function (First semester)	1- holds the beating Cartesian to recognize two groups, and represented graphically. 2- recognizes the inner product Cartesian groups is ended, and its graphic representation. 3- recognize the concepts of relationship and function, and distinguishes between them, and gives a variety of examples of each. 4- There is the opposite field and field and term polynomial functions. 5- expresses the polynomial functions (function linear quadratic function) in different ways. 6- uses the relationships and functions in solving mathematical problems of life. 7- recognizes and represents a numerical patterns and algebraic different ways. 8- detects a pattern of consecutive symbols, and arrive at generalizations about a variety of patterns and are enriched. 9- It uses a variety of technological methods to discover and configure models and relationships and functions and numerical patterns in the form of activities.

.The third area: Engineering and measurement

.The first criterion: creates two-dimensional and three-dimensional geometric shapes, and shows the properties and analyzes the relationships between them

Evidence and evidence	Evaluation methods	Educational activities	Teaching and learning strategies	Current curriculum content	(Learning outcomes (indicators / practices
*Review teacher preparation book *Check tracts pupils *Oral questions *Note is inhalers *Exercises to be solved, to be implemented in the *Classroom activities *Exercises to be solved, to be implemented *Homework and activities *Completion of the student file (examples of exercises and activities that the student solve with his colleague after (he put them right) * The various activities carried out by the student and the associated real numbers *The results of the monthly tests	*oral questions *editorial questions *note cards *the end of the unit test *Follow-up performance. the pupils _	1- solve a set of exercises on the circuit. 2) pupils practiced a range of activities in groups to know the numbers associated with the relative concepts. 3) solves every pupil set of exercises individually for training on the relative numbers. 4) The division of students in groups so that each group of two students made up, and asked each student to solve a number of exercises on the relative numbers, provided that the colleague put them right training to learn and evaluate peers, then ask the pupils exchange roles with each other and are under the supervision of the teacher	1- cooperative learning . - *lecture .*discussion *Brainstormi ng *Problem Solving 6- inductive method .Way Alastenbatih	.Unit: the circle (First semester)	1-recognizes the essential concepts and definitions of the department. 2-specifies the conditions of point and straight for the circle, and the circle for other circle, and expresses each case drawing. 3-draws a circle passing information point or two points or three points. 4-concludes the straight line passing through both the center of the circle relationship, and where the tendon. 5-recognize the concepts of central and peripheral corner and the relationship between them. 6- recognize, calculated by measuring the length of the bow and bow. 7- recognizes the quadrilateral ring, and infer properties. 8- recognize the concept of tangent angle and applications on them. 9- Some computer programs used in solving engineering problems include circuit and ties them.

.The second criterion: linking the number and the point, using the principles of analytical geometry

Evidence and evidence	Evaluation methods	Educational activities	Teaching and learning strategies	Current curriculum content	Learning outcomes (indicators / (practices
*Review teacher preparation book *Check tracts pupils *Oral questions *Note is inhalers *Exercises to be solved, to be implemented in the *Classroom activities *Exercises to be solved, to be implemented *Homework and activities *Completion of the student file (examples of exercises and activities that the student solve with his colleague after (he put them right) * The various activities carried out by the student and the associated real numbers *The results of the monthly tests	*oral questions *editorial questions *note cards *the end of the unit test *Follow-up performance. the pupils –	.1-solve a set of exercises on geometry • • 2) pupils practiced a range of activities in • groups to know the numbers associated with .the relative concepts 3) solves every pupil set of exercises • individually for training on the relative .numbers 4) The division of students in groups so that • each group of two students made up, and asked each student to solve a number of exercises on the relative numbers, provided that the colleague put them right training to learn and evaluate peers, then ask the pupils exchange roles with each other and are under the .supervision of the teacher	1- cooperativ e learning . - *lecture *discussion . *Brainstor .ming *Problem .Solving 6- inductive .method .Way Alastenbatih •	.Unit: engineering (Second Semester)	1- the relations between the concept of lines by using the .inclination recognize 2- There coordinate the mid-point line segment, and the distance between two points, engineering .and applications of them 3- identify and conclude the division of a straight piece of home and abroad, and solves the .applications on them 4- There is its point circle equation (d, e), and the length of the radius of "transfer", and .applications of them 5- There is an equation for the tangent circle at the point of it, and the .applications on them

.The third criterion: uses a visual representation and geometric modeling to solve some math problems and non-sporting

Evidence and evidence	Evaluation methods	Educational activities	Teaching and learning strategies	Current curriculum content	Learning outcomes (indicators / (practices
–	–	–	–	–	1- recognize geometric patterns (visual), and completed its elements, builds geometric patterns (visual) new to know .him 2- uses geometric modeling in life situations such as the arts, ... ،science 3- Computer software used in the design and drawing some geometric shapes and solve engineering problems in the form .of activities

.Fourth criterion: evidence and logical inference is used to prove the engineering theories

Learning outcomes (indicators / (practices	Current curriculum content	Teaching and learning strategies	Educational activities	Evaluation methods	Evidence and evidence
1- understand and infer and prove to prove theories and laws on the circle and quadrilateral .Ring and seek 2- uses geometric theories on the circle and quadrilateral Ring and seek to prove some theoretical exercises and solving some .practical problems 3- It builds and the inductive and derivative discussions about some of the .engineering ideas	–	–	–	–	–

.Standard V: recognizes and uses basic trigonometric functions

Evidence and evidence	Evaluation methods	Educational activities	Teaching and learning strategies	Current curriculum content	Learning outcomes (indicators / (practices
*Review teacher preparation book *Check tracts pupils *Oral questions *Note is inhalers *Exercises to be solved, to be implemented in the *Classroom activities *Exercises to be solved, to be implemented *Homework and activities *Completion of the student file (examples of exercises and activities that the student solve with his colleague after (he put them right) * The various activities carried out by the student and the associated real numbers *The results of the monthly tests	*oral questions *editorial questions *note cards *the end of the unit test *Follow-up performance. the pupils –	1- solve a set of exercises on the basic • • .trigonometric functions 2) pupils practiced a range of activities in • groups to know the numbers associated with .the relative concepts 3) solves every pupil set of exercises • individually for training on the relative .numbers 4) The division of students in groups so that • each group of two students made up, and asked each student to solve a number of exercises on the relative numbers, provided that the colleague put them right training to learn and evaluate peers, then ask the pupils exchange roles with each other and are under the .supervision of the teacher	1- cooperative learning . - *lecture .*discussion *Brainstormi .ng *Problem .Solving 6- inductive .method .Way Alastenbatih •	.Unit: basic trigonometric functions (First semester)	1- basic trigonometric ratios to recognize angle (sin , cos, tan) e) using a right-angled .triangle 2- recognize the basic trigonometric ratios for some , specific angles (, 45, 30 , 60 3- It uses computers and some software (PC) in solving mathematical problems on the basic .trigonometric functions

.Fourth area: data and statistics and probability analysis

.The first criterion: selects and applies statistical methods and techniques suitable for the analysis of certain data and answer questions about them

Evidence and evidence	Evaluation methods	Educational activities	Teaching and learning strategies	Current curriculum content	Learning outcomes (indicators / (practices
*Review teacher preparation book *Check tracts pupils *Oral questions *Note is inhalers *Exercises to be solved, to be implemented in the *Classroom activities *Exercises to be solved, to be implemented *Homework and activities *Completion of the student file (examples of exercises and activities that the student solve with his colleague after (he put them right) * The various activities carried out by the student and the associated real numbers *The results of the monthly tests	*oral questions *editorial questions *note cards *the end of the unit test *Follow-up performance. the pupils –	1-solve a set of exercises on the • • .standard deviation 2) pupils practiced a range of • activities in groups to know the numbers associated with the relative .concepts 3) solves every pupil set of • exercises individually for training on .the relative numbers 4) The division of students in groups so • that each group of two students made up, and asked each student to solve a number of exercises on the relative numbers, provided that the colleague put them right training to learn and evaluate peers, then ask the pupils exchange roles with each other and are under the supervision of the teacher	1- cooperative learning . - *lecture .*discussion *Brainstormi .ng *Problem .Solving 6- inductive .method .Way Alastenbatih •	.Unit: Statistics (First semester)	1- recognize measures of dispersion in a simple (standard .(deviation 2- choose and apply appropriate statistical methods to analyze data associated with a particular position and represented .graphically 3- Choose a sample and determines the conditions selected in terms of the .appropriate size and impartiality

.The second criterion: make judgments on the interpretations and predictions that can be accessed from a particular data analysis

Evidence and evidence	Evaluation methods	Educational activities	Teaching and learning strategies	Current curriculum content	Learning outcomes (indicators / (practices
_	_	_	_	_	1- data represented graphically in different ways to read and understand and interpret and .compares them 2- speculates Fraudha for certain relationships, and draws conclusions, and the reasonable inferences to be the result of the analysis of data related to the .situation 3- make judgments on the interpretations and predictions have been reached by a particular .data analysis 4- The statistics published in the media of the different life activities in the form .of activities

:The third criterion understand and apply basic concepts of probability Statistics

Evidence and evidence	Evaluation methods	Educational activities	Teaching and learning strategies	Current curriculum content	Learning outcomes (indicators / (practices
*Review teacher preparation book *Check tracts pupils *Oral questions *Note is inhalers *Exercises to be solved, to be implemented in the *Classroom activities *Exercises to be solved, to be implemented *Homework and activities *Completion of the student file (examples of exercises and activities that the student solve with his colleague after (he put them right) * The various activities carried out by the student and the associated real numbers *The results of the monthly tests	*oral questions *editorial questions *note cards *the end of the unit test *Follow-up performance. the pupils –	1- solve a set of exercises on the possibility. 2) pupils practiced a range of activities in groups to know the numbers associated with the relative concepts. 3) solves every pupil set of exercises individually for training on the relative numbers. 4) The division of students in groups so that each group of two students made up, and asked each student to solve a number of exercises on the relative numbers, provided that the colleague put them right training to learn and evaluate peers, then ask the pupils exchange roles with each other and are under the supervision of the teacher	1- cooperative learning . - *lecture .*discussion .*Brainstorming *Problem .Solving 6- inductive .method .Way Alastenbatih	.Unit: possibility (Second Semester)	1- calculates the different possibilities for simple events. 2- being the intersection operations, and the Union, and the difference, and completion on simple events. 3- Computer used to make some special operations statistics and probability in the form of activities.

.Fourth criterion: appreciate the importance of statistics and probability in the areas of knowledge in different life situations

Evidence and evidence	Evaluation methods	Educational activities	Teaching and learning strategies	Current curriculum content	Learning outcomes (indicators / (practices
–	–	–	–	–	1- lives with little parking, which can be reported in the study of data and statistics and probability .analysis 2- explains or writes a simplified report on the importance of statistics and probability in the fields of knowledge and different .life situations 3- The role of statistics and probability recognize in other areas of knowledge .and attitudes of life mixed